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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,551	10/30/2003	Walter Bernard Hill JR.	3597-143	9906

33432 7590 01/31/2007  
KILYK & BOWERSOX, P.L.L.C.  
400 HOLIDAY COURT  
SUITE 102  
WARRENTON, VA 20186

EXAMINER
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FORTUNA, JOSE A

ART UNIT	PAPER NUMBER
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1731

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/31/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/697,551

**Applicant(s)**

HILL, WALTER BERNARD

**Examiner**

José A. Fortuna

**Art Unit**

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 17-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1-15 and 17-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 3-4 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 3-4 do not further limit the newly amended claim 1, because they include  $T_g$  and molecular ranges that represent K-values outside the scope of the independent claim, claim 1, i.e., the molecular weights of the claim 4 represent PVP with K-values between 10-150 and the same for the  $T_g$  values.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-15 and 17-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pomplun et al., GB 2,122,209.

Regarding claims 1-9, 17-18, Pomplun et al. teach a creping process in which a creping adhesive comprising polyvinylpyrrolidone and a high molecular polymer is used, see abstract and page 1, lines 71-124. The creping adhesive does not contain ethoxylated acetylenic diol or oxazoline, which meets the criteria of the claims for those components, i.e.; "less than" includes zero as the lower limit. Pomplun et al. teach the use PVP and exemplify the use of a K-30 polyvinylpyrrolidone manufactured by GAF, see page 2, lines 5-11 and footnote in the same page, (it is well known that K-30 Polyvinylpyrrolidone, PVP, have K ranges from 26-35 and average molecular weight of about 40,000 Daltons<sup>1</sup>). However, a disclosure in a reference is not limited to its specific illustrative examples, but must be considered as a whole to ascertain what would be realistically suggested thereby to one of ordinary skill in the art. *In re Uhlig*, 54 CCPA 1300, 376 F2d 320; 153 USPQ 460. The use of higher values of K for the PVP would have been obvious to one of ordinary skill in the art, because he/she would have reasonable expectation of success if such higher K values were used for the creping of the web. Also Pomplun et al. teach the use of polyvinyl alcohol, PVA, and the same addition amount and PVA to PVP ratio, see for example claim 3. Pomplun et al creping adhesive does not contain chloride or epichlorohydrin.

Regarding claims 10-15, these steps are taught on page 1, lines 17-32, in which they incorporate by reference US Patent No. 4,304,625 to Grube et al., wrongly referred as 4,304,635, which describes the same claimed steps, see for example column 1 and

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<sup>1</sup> See IPCS INCHEM Document attached in PTO-892.

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column 3, lines 15-60. Note also that the Grube et al. teach the impression fabric having knuckles as claimed., see column 1, and column 3, lines 15-60.

With regard to the newly added claims, claims 20-27, Pomplun et al. does not teach the use of oxazoline and therefore the limitation of the use of such compound is met, since less than includes zero (0) as the lower range. As to the use of about 100% PVP, Pomplun et al. teaches that the PVP can be used in amounts between 5-95, see claim 3 of the cited reference, and 95% is considered to be about 100%.

5. Claims 1, 6-7, 10-13, 16-21, 24-25 are rejected under 35 U.S.C. 103(a) as obvious over Warchol et al., US Patent No. 5,633,309.

Warchol et al. teach a creping adhesive and a method of creping, in which a paper web is creped from a Yankee Dryer and the creping adhesive is added to the surface of said dryer, see abstract and column 1, lines 54-59. Warchol et al. teach that the creping adhesive contains an oxazoline polymer and a polyamide resin or alternatively an oxazoline and a multipolymer, such as polyvinylpyrrolidone, column 5, lines 11-27.

Warchol et al. teach that the concentrate adhesive contains between 5 to about 25% of solids and between 1 to about 5% by weight of oxazoline, see column 2, lines 9-20, but they teach that before use, the adhesive is diluted to solids concentration from about 0.1 to 5%, see column 5, lines 41-48, which reduces the concentration of oxazoline to less than 1%, i.e., 5 to 50 folds concentration reduction. Even though Warchol et al. do not explicitly teach the K-value of the PVP, the use of PVP with such K-value would have been obvious to one of ordinary skill in the art absent a showing of unexpected results. That is one of ordinary skill in the art would have reasonable expectation of success if the

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viscosity and molecular range of the PVP were within the claimed range. Note that even though they teach the use of epichlorohydrin, EPI, there is no need to use it, the EPI, when PVP is used, i.e., Warchol et al. teach that PVP is a substitute for the EPI, column 5, lines 11-23.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-15 and 17-27 have been considered but are moot in view of the new ground(s) of rejection.

As a clarification, by a typographical error claim 19 was not included as one of the rejected claims. However, the limitations of that claim were explicitly discussed in the office action, see rejection of claim 9, which is the counter part of claim 19. In that it was indicated that Pomplun et al. do not include epichlorohydrin, see last sentence of page 2.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure in the art of "Creping with Polyvinylpyrrolidone adhesives."

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

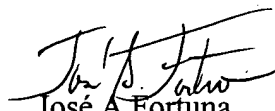
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José A. Fortuna whose telephone number is 571-272-1188. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
José A Fortuna  
Primary Examiner  
Art Unit 1731

JAF